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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,548	10/12/2001	Heikki Suonsivu	P 280414	7503
909	7590	12/17/2004	2010740US/VK/kop	
PILLSBURY WINTHROP, LLP			EXAMINER	
P.O. BOX 10500			KIM, KEVIN	
MCLEAN, VA 22102			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/975,548

Applicant(s)

SUONSIVU ET AL.

Examiner

Kevin Y Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,3-14 is/are rejected.
7) ☒ Claim(s) 2 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 12 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/2001, 10/2002.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 14 is objected to because of the following informalities: claim 14 fails to specify the number of claim it depends on. In light that a similar claim 4 is dependent on independent claim 1, claim 14 will be treated as dependent on independent claim 5. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6 and 8-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites "uplink filter means." However, "uplink filter means" is first introduced in claim 5. Thus, it is ambiguous whether or not the "uplink filter means" recited in claim 6 is identical to the "uplink filter means" in claim 5. Although reference numerals are written in parentheses next to the terms in question, they are not considered to have limiting weights because, otherwise, they would read the specification into the claims. For the purposes of examination, however, claim 6 is understood as a further definition of the "uplink filter means" of claim 1. Claims 8-12 are rejected for the same reason as they depend from rejected claim 6.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1,3,5-8,10 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Swisher (US 6,385,253).

Consider **claim 1**. Swisher discloses a method of transmitting information between a data network (not shown but coupled to BDT 100 shown in Fig.1) and a subscriber's transceiver unit (172), comprising;

using a VDSL downstream frequency band (see Fig.2) for transmitting a signal, i.e., information from the network to the subscriber's transceiver unit, see col.3, lines 8-10,

using a "non-VDSL uplink frequency band" (POTS or ISDN frequency band in Fig.2) for conveying information from the subscriber's transceiver to the network. See col. 2, line 65 – col.3, line 2.

Regarding **claim 3**, Swisher discloses using the POTS or ISDN frequency band "even at least one VDSL uplink band" (220) is usable. In other words, the POTS or ISDN frequency band may be used at the same the VDSL band is used.

Now consider **claim 5**. Referring to Fig. 3, Swisher discloses a subscriber's transceiver unit communication with a data network (not shown but coupled to BDT 100 shown in Fig.1), comprising;

downlink filter means (350 and 345) for using "at least one VDSL downstream frequency band" (230, see Fig.2) for transmitting a signal, i.e., information from the network to the subscriber's transceiver unit, see col. 3, lines 8-10,

uplink filter means (350 and 345) for using “at least one non-VDSL down frequency band” (POTS or ISDN frequency band 200, 210 in Fig.2) for conveying information from the subscriber’s transceiver to the network. See col. 2, line 65 – col.3, line 2.

Regarding **claim 6**, the filter means (350 and 345) of Swisher also comprises “uplink filter means” for using one VDLS uplink frequency band, since as seen in Fig.2, it also allows the use an upstream link frequency band (230).

Regarding **claim 7**, the filter means (350 and 345) of Swisher includes a POTS splitter LPF that reads on “a bandstop filter” for implementing the non-VDSL uplink frequency band” since it stops all VDLS frequencies from being transmitted and passes the non-VDSL uplink frequency band to the network. It should be noted that the claim fails to define what frequency is to be “stopped” by the bandstop filter.

Regarding **claim 8**, the filter means (350 and 345) of Swisher includes a POTS splitter LPF (350) that reads on “a first bandpass filter” for the non-VDSL uplink frequency band since it passes only the non-VDSL uplink frequency band to the network. The filter means (350 and 345) of Swisher also includes “a second band pass filter” (345) for at least one VDLS uplink frequency band since it passes only VDSL frequency bands to the network.

Regarding **claim 10**, the filter means (350 and 345) of Swisher includes HPF (345) that reads on “a bandstop filter” it stop non VDSL frequencies from being transmitted and passes DLS uplink frequency band to the network. It should be noted that the claim fails to define what frequency is to be “stopped” by the bandstop filter.

Regarding **claim 13**, the lower limit of VDSL frequency is 138 kHz according to the industry standard. See ETSI Specification submitted by Applicant. Therefore, the non-VDSL

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frequency band, which is located below the VDSL frequency band as shown in Fig. 2 of Swisher is “approximately 138kHz.”

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher (US 6,385,253) as applied to claim 1 above and in view of Furukawa (EP 1 024 648, part of IDS submitted by Applicant).

Swisher discloses all the claimed subject matter of claim 1 as explained above but fails to teach “the transceiver unit negotiating with its peer entity as to whether at least one VDSL uplink band is usable.” Referring to Fig.3c, Furukawa teaches an initialization between two VDSL transceivers. See col. 3, line 66 – col.4, line 10. One method of the initialization involves a negotiation between the two transceivers to determine whether at least one VDSL frequency

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band is usable for upstream communication in order to locate an adequate upstream frequency band. See col. 4, line 61 – col. 5, line 15. Thus, it would have been obvious to one skilled in the art at the time the invention was made to design the transceiver unit of Swisher to negotiate with its peer transceiver as to whether at least one VDSL upstream band is usable for the purpose of locate an adequate upstream frequency band, as taught by Furukawa.

9. Claim 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher (US 6,385,253) as applied to claim 8 and 5 above respectively and in view of Shenoi (US 6,829,292).

Swisher discloses all the claimed subject matter of claim 8 as explained above but fails to teach “a separate bandpass filter for each VDSL uplink frequency band.” Referring to Fig.4 Shenoi teaches a separate bandpass filter (104) for each upstream upstream frequency band so that each frequency band can be independently gain-adjusted, which would result in a better performance since channel characteristics vary depending on transmission frequency. See col.7, lines 2-13. Thus, it would have been obvious to one skilled in the art at the time the invention was made to provide a separate bandpass filter for each upstream frequency band in Swisher’s transceiver for the purpose of separately amplifying the upstream stream in accordance with its frequency characteristics, as taught by Shenoi.

Allowable Subject Matter

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9. Claims 2,11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: No prior art has been found to teach or suggest using VDSL transmission method where VDSL frequency band is used for downlink transmission and non-VDSL frequency band is used for uplink transmission with the condition that requires the use of "the at least one non-VDSL up frequency band only when no VDSL uplink bands are usable."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


KEVIN KIM
PATENT EXAMINER